

This listing of claims will replace all prior versions of claims in the application.

Claims 1-4. (cancelled)

Claim 5. (currently amended) A method for electrodepositing copper on a semiconductor silicon wafer substrate having trenches or via holes, comprising:

electrolytically depositing copper into the trenches or via holes of the silicon wafer substrate from an electroplating composition that comprises copper ions and one or more complexing agents for the copper ions and having a pH of from 4 to 8.4,

wherein the one or more complexing agents are chosen from among an aminealkanol compound, cyclic acid-imide compound, and an organic phosphonic acid compound.

Claim 6. (cancelled)

Claim 7. (previously presented) The method of claim 5 wherein the one or more complexing agents are chosen from among monoethanolamine, diethanolamine, triethanolamine, succinimide, phthalimide, hydantoin, 5,5-dimethylhydantoin, aminotrimethylenephosphonic acid, 1-hydroxyethylidene-1,1-diphosphonic acid, ethylenediaminetetramethylenephosphonic acid, and diethylenetriaminepentamethylenephosphonic acid.

Claim 8. (previously presented) The method of claim 5 wherein copper is deposited over a conductive seed layer.

Claim 9. (previously presented) A method for electrodepositing copper on a semiconductor silicon wafer substrate having trenches or via holes, comprising:

electrolytically depositing copper into the trenches or via holes of the silicon wafer substrate from an electroplating composition that comprises copper ions and one or more complexing agents for the copper ions and having a pH of from 4 to 10,

wherein the one or more complexing agents are chosen from among an aminealkanol compound, cyclic acid-imide compound, and an organic phosphonic acid compound.

Claim 10. (previously presented) The method of claim 9 wherein the one or more complexing agents are chosen from among monoethanolamine, diethanolamine, triethanolamine, succinimide, phthalimide, hydantoin, 5,5-dimethylhydantoin, aminotrimethylenephosphonic acid, 1-hydroxyethylidene-1,1-diphosphonic acid, ethylenediaminetetramethylenephosphonic acid, and diethylenetriaminepentamethylenephosphonic acid.

Claim 11. (previously presented) The method of claim 9 wherein copper is deposited over a conductive seed layer.